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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 (Filed August 14, 2014)
And Related Matters	Application 15-07-002 Application 15-07-003 Application 15-07-006

(NOT CONSOLIDATED)

In the Matter of the Application of PacifiCorp (U901E) Setting Forth its Distribution Resource Plan Pursuant to Public Utilities Code Section 796.	Application 15-07-005 (Filed July 1, 2015)
And Related Matters	Application 15-07-007 Application 15-07-008

COMMENTS OF THE UTILITY REFORM NETWORK REGARDING PROPOSED TRACK 2 DEMONSTRATION PROJECTS

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Pursuant to the directions and schedule provided in the *Joint Assigned Commissioner and Administrative Law Judge's Ruling Regarding Track 2 Demonstration Projects* ("ACR"), issued on May 17, 2016 and the ALJ Ruling issued on July 12, 2016, The Utility Reform Network ("TURN") respectfully provides these comments on the proposed Demonstration Projects.

The ALJ Ruling asked parties to organize their comments based on Appendix A to the ACR, to the extent possible. The organization of that Appendix A was designed to solicit information concerning the demonstration projects from project proponents. TURN's recommendation to prioritize Demonstration C projects relates most closely to Question #1 in the category "Commission Approval" of the Appendix. However, TURN's comments and recommendations concerning the scope, budget and design of the proposed utility demonstration projects do not fall neatly into the Appendix A categories. Thus, TURN provides comments using separate headers and topics.

I. Summary of Utility Demonstration Projects and TURN's Primary Recommendations

Utility demonstration ("Demo") projects are an important part of the DRP process to develop tools and enhanced understanding about the interaction of DERs with the electric distribution system. Nevertheless, given the advanced state of DER deployment in California and the years of utility experience with various pilot programs that have already been funded, utility pilots need not spend tens of millions of dollars and take an additional three to five years. The following summarizes the costs and timelines of the proposed pilots, which altogether are estimated to cost $67.1 million plus DER

procurement costs,[1] though some of these costs are funded by ratepayers through the EPIC program.[2]

Table 1. Summary of Proposed IOU Demonstration Projects

IOU	Demo	Name/Area	Cost	Estimated Pilot Completion Date (1)
PG&E	C	Chico DPA	$1.75mm + DER Procurement	5/18/20
PG&E	D	Huron Sub	$2.1mm + DER Procurement	12/16/20
PG&E	E	Angel Island	$4.2mm + DER Procurement	4/15/21
SCE	C	El Toro Marine Base	$9.3mm + DER Procurement	Q4 2019
SCE	D	Camden and Johanna Jr Subs	$23.65mm + DER Procurement *(EPIC funded)*	Q1 2020
SCE	E	Irvine	$10.2mm + DER Procurement	Q2 2020
SDG&E	C	Mission and Felicita Sub	$6.4mm + Additional DER Procurement	3/31/20
SDG&E	D	Valley Center Sub	$9.4mm + DER Procurement	9/30/20
SDG&E	E	Borrego Springs	$.5mm *($14.2mm already funded)*	9/30/18

(1) TURN's estimated completion dates for PG&E assume "pre-solicitation" activities occur before 1/1/17 and DER solicitation begins on 1/1/17.

Sources: Compiled from Utility Track 2 Demonstration Projects Questions, June 28, 2016 Workshop Presentations, and data requests.

[1] Though the magnitude of these costs is uknown, they will likely be significant and should be incurred only if necessary to achieve project goals.

[2] TURN discussed these same concerns in its initial Protest filed August 31, 2015. See TURN Protest, pp. 1, 7.

Even a cursory examination of these pilots, together with various projects already planned or operational, indicates that the goals and objectives of the demonstration projects can be achieved with lower costs and shorter timelines. One example of how pilot projects can be structured more efficiently is SDG&E's Borrego Springs (Demo E) pilot, which utilizes an ongoing project to derive additional learnings at limited cost to ratepayers in a timely fashion.

TURN recommends that the Commission take the following steps to authorize the most effective and timely demonstrations projects:

1) Demonstration Project C should be modified and authorized to begin using an expedited process, with the following conditions:
    - Non-DER procurement costs should be limited to $2 million or less for each utility;
    - SCE's non-DER procurement costs should be reduced and SDG&E's proposal to include utility-owned energy storage should be modified;
    - The utilities should file advice letters to seek approval of DER procurement costs.

2) The Commission should delay any authorization of demonstration projects D and E and set a process that allows parties to obtain further data and provide testimony or comments concerning these demonstration projects. The utility proposals are duplicative, costly, and unnecessarily time-intensive; greater efficiencies and cost savings must be achieved.

II. Demonstration Project C Should Move Forward with Modifications That Cap Costs (Excluding DER Procurement Costs) at $2 million or Less Per Utility

A. Summary

TURN believes demonstration project C presents a opportunity to test and validate DER performance and value to the distribution grid, whereby procurement of third-party

resources may be necessary to validate certain benefits. Specifically, TURN partially agrees with the following statement by PG&E for Demo C only:

> Historically, electric utilities have not relied on DERs providing distribution services, such as targeted deferral of distribution investments. Although the proliferation of DERs have started to shape the load profile of the greater electric system, which the utilities have factored into their base assumptions for transmission and distribution planning, the operation of these DERs have largely been based on the specific on-site end-user needs and not the collective reliability needs of the distribution grid. There are many questions as to the operational ability for DERs to be able to consistently perform these distribution services to meet the utilities needs for ensuring safe and reliable electric service to all end-users of the grid.[3]

TURN therefore agrees some third-party DER procurement may be necessary with additional measurement, verification, and data reporting. In the future, however, we hope that existing DER's may be used more effectively to drive ratepayer savings rather than procurement of new resources. Given the historic deployment of DER's in California, and years of pilot projects to understand DER performance, utilities should not be able to claim ignorance over potential benefits of these technologies indefinitely.

Most notable in the past five years has been the installation of rooftop solar photovoltaic distributed generation ("solar PV").[4] Critically, the "operation" of rooftop solar PV cannot be significantly controlled by the utility. In other words, rooftop solar will generate electricity with a certain production profile that will not vary based on whether the utility is "procuring" the DER or it is simply being installed for customer use. The impact of solar PV on utility distribution circuit peak load will depend on the production profile, not on the nature of the procurement process. The primary way utilities can modify or alter solar PV output is via smart inverter control –this does not necessarily require the procurement of new solar PV but either of smart inverters if not already installed or the ability to communicate and control these inverters. It is true, however,

[3] PG&E data request response TURN_003-Q2.

[4] Customer-sited energy efficiency measures have been deployed longer and in greater overall quantities, with the effect of reducing customer load.

that DER's are not presently *relied* on by utilities in California for the provision of distribution services, including capacity deferral/avoidance.[5]

Administration and data collection costs, including any additional equipment should be cut to $2 million or less and the project should move forward on an expedited track. SDG&E estimates $1.8 million for costs not including installation of storage systems,[6] and PG&E's total non-DER procurement costs are $1.75 million. By instructing utilities to file supplemental proposals that meet this criterion, Demo C pilots can move forward on an expedited basis.

B. The SCE and SDG&E Demonstration C Pilots Should Be Modified

Only PG&E provided total costs (for non-DER procurement) that appear reasonable and within the scope of what is necessary for Demo C.

SCE includes costs of $6.5 million for "equipment and services" that appear to go far above and beyond what is necessary to accomplish the project. Nevertheless, SCE's project appropriately leverages the Preferred Resources Pilot (PRP) to hopefully limit or eliminate additional DER procurement – this part of the project should be maintained.

SDG&E's project lacks detail and has not been finalized by the utility. SDG&E proposes demonstrations on up to 2 circuits and utility-owned storage, at a cost of $4.6 million, as part of the project. The DRP Guidance Document explicitly directed that Demo C "shall explain how minimum-cost DER portfolios were constructed using locational factors such as load characteristics, customer mix, building characteristics and the like."[7] It is not

[5] However, the utilities have historically dispatched their direct load control air conditioner cycling programs to avoid distribution contingencies due to high circuit loads. TURN is not aware whether the utilities have ever used DLC to specifically limit circuit peak load so as to defer capacity investments.

[6] $1.8 million ($6.4 million less $4.6 million of storage installation costs). See TURN data request SDG&E-DRP-002.

[7] ACR February 6, 2015, Guidance Document, p. 6.

clear how SDG&E can claim that this storage is part of a "minimum-cost DER portfolio."

Furthermore, the Guidance Document directed that Demonstration C projects "shall employ services obtained from customer and/or 3rd party DERs."[8] SDG&E's proposal to build and own storage appears to contravene this directive. Moreover, SDG&E already has around 7 MW of utility-owned storage,[9] and recently submitted a request in response to Energy Division's Resolution on Aliso Canyon to approve 30 MW and 7.5 MW battery storage projects that would also be utility-owned and come online by January 31, 2017.[10] Very little incremental learnings will therefore be derived by approving even more utility-owned storage.

Thus, SDG&E's initial proposal is unreasonable and unnecessary; SDG&E should therefore modify its proposal to either procure third-party DERs or utilize existing DERs and/or pilot programs.

C. TURN's Recommended Process for Authorizing Funding for Demonstration C Projects

TURN recommends non-DER procurement costs be cut to $2 million or less for each utility's Demo C project. PG&E's cost estimates appear reasonable; SCE and SDG&E will need to modify their pilots, as discussed above. Next, pilots should move forward on an expedited basis whereby DER procurement approval is subject to an Advice Letter approval process and reasonableness review.

The Advice Letters submitted by the utilities should demonstrate costs are reasonable in part by comparing to the wires alternative cost. While TURN's preference is for projects that are less than or equal to the alternative "wires" cost, we do not suggest this be

[8] ACR February 6, 2015, Guidance Document, p. 7.

[9] *SDG&E's 2014 Energy Storage Distribution Reliability/Power Quality Request for Proposal Seeking a 4 MW Energy Storage System*, December 1, 2015, Post-Solicitation Report, Public Version, p. 4.

[10] AL 2924-E.

required for a pilot demonstration program. Nevertheless, DER procurement costs that are multiples above the traditional "wires" solution may need to be reconsidered. Advice Letters should detail cost allocation treatment and what costs are capital versus expense.

III. Utility Demonstration Projects D and E Require Additional Evaluation to Ensure Coordination with Existing DER Deployment and Pilot Projects

The February 6, 2015 Ruling and attached Guidance for Section 769 – Distribution Resources Plan ("Guidance Document") states that demonstration projects, "Where feasible…should be coordinated with on-going efforts associated with each Utility's smart grid deployment plan and EPIC investment plan."[11] TURN interprets this statement as including all relevant utility pilot projects and RFO's, even if not EPIC funded. Further, existing DER deployment should be prioritized over solicitation of additional resources for the demonstration projects – it is important that utilities demonstrate the ability to understand and utilize existing DERs to drive value for ratepayers.

It is evident that proposed utility pilots (excluding SCE's Demo D) do not maximize the use of existing pilots and DER's. There is absolutely no reason for 8 separate solicitations for new DERs in a state that has funded numerous pilots and DER incentives for years (in some cases decades) in the areas of demand response, energy efficiency, and solar PV. While TURN expects enhanced measurement, verification, and testing of some resources, it is not evident that each demonstration project necessitates an RFO for additional DER resources to achieve pilot goals.

Examples abound of how the IOU's could better use existing pilots and resources. EPIC funds have been allocated to control and measurement of storage for grid benefits,[12] solar forecasting and optimization of DER operation,[13] electric vehicle grid integration

[11] ACR February 6, 2015, Attached DRP Guidance, p. 6.

[12] See, for instance, PG&E project EPC-14-023, project 1 http://www.pge.com/includes/docs/pdfs/about/environment/pge/epic/Attachment1.pdf.

[13] See project in SDG&E's territory, EPC-14-005.

pilots,[14] control and measurement of distributed energy resources (including energy management systems),[15] and many other pilots that could be better leveraged for the demonstration projects at-hand. Enhanced data collection using resources utilized or procured in demonstration C may also provide an avenue to gain efficiencies rather than additional DER procurement.

Projects and solicitations outside of EPIC may be relevant to accomplish the goals of the demonstration projects. For example, utilities are in the process of procuring energy storage resources pursuant to the 1.3 GW statewide energy storage mandate,[16] some of which may be utility owned. PG&E recently announced a pilot project with SolarCity to test solar, smart inverters, and storage – such a project could also be leveraged for Demo D, which is intended to demonstrate "the operations of multiple DERs in concert, and operational coordination with third-party DER owners/operators/aggregators."[17]

Utility proposals for Demo E, which involves demonstration of a microgrid, would similarly benefit from utilization of existing pilots/resources as well as coordination among the utilities. Specifically, PG&E proposes building a micro-grid on Angel Island, even though it has an existing microgrid at Santa Rita jail.[18] SCE's non-DER

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[14] PG&E-BMW pilot, https://www.pge.com/en/about/newsroom/newsdetails/index.page?title=20150105_pge_and_bmw_partner_to_extract_grid_benefits_from_electric_vehicles; SDG&E VGI pilot program approved in D.16-01-045.

[15] SDG&E "Distributed Control for Smart Grids." http://www.energy.ca.gov/research/epic/documents/2016-06-22_workshop/presentations/SDG&E%20Distributed%20Control%20Project%20Presentation%20June%202016%20Workshop%20Final.pdf. PG&E, Distributed Energy Resource Management System (DERMS), http://www.energy.ca.gov/research/epic/documents/2016-06-22_workshop/presentations/PGE_EPIC%20Summer%20Workshop_2-02%20DERMS%20Presentation_Final.pdf.

[16] D.13-10-040.

[17] Assigned Commissioner Ruling February 6, 2015, Guidance Document, p. 7.

[18] PG&E Currents, http://www.pgecurrents.com/2014/05/28/santa-rita-jail-and-pge-partner-for-a-smarter-grid/. PG&E fails to explain in its comments why it cannot use the existing microgrid project to achieve the objectives of the demonstration pilots.

procurement costs again appear unreasonable due to "equipment and services" costs of $5.5 million.

SDG&E's Borrego Springs project utilizes existing development of a microgrid and appears reasonable.

IV. Conclusion

The utilities have the burden of proof to demonstrate the reasonableness of a spending request. TURN suggests that the data provided so far by the utilities do not demonstrate the reasonableness of spending $67 million on nine separate demonstration projects. Therefore, TURN recommends that the Commission:

- Expedite approval of Demo C projects, as long as the costs (excluding DER procurement) are capped at $2 million per utility, and utilities submit advice letters for approval of DER procurement costs, with appropriate information concerning the avoided costs of a wires alternative;
- The Commission should allow for additional discovery and the submission of testimony or comments concerning Demo D and E projects. It appears that cost reductions and efficiencies can be achieved by better coordination with existing projects and pilots, and perhaps by eliminating duplicative demonstration projects.

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Respectfully submitted,

/S/

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